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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,221	01/24/2002	Nicholas F. Borrelli	SP02-014	1716

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CORNING INCORPORATED
SP-TI-3-1
CORNING, NY 14831

EXAMINER	
WALLS, DIONNE A	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,221	BORRELLI ET AL.	
	Examiner	Art Unit	
	Dionne A. Walls	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Previous Indication of Allowable Subject Matter

In the previous Office Action, the Examiner indicated that, subject to the "Claim Objection" and the "35 USC 112-2" issues, claims 1-6 were allowable, for the following reason:

- "Applicant has claimed an unobvious improvement in known methods of manufacturing a polarizing glass articles (disclosed, particularly, in US. Pat Nos. 4908054 and 6313947) which include melting a glass batch containing metal halides; cooling and shaping the melt into a glass article; subjecting the glass to high temperatures to precipitate metal halide crystals; elongating the glass article and exposing the elongated glass article to a reducing atmosphere to initial reduction of the metal halides to their corresponding metal. It would not have been obvious to modify the prior art of record to also include the intermediate step of subjecting the glass article to an ion-exchanging procedure to exchange metal into the surface of the glass article."

In essence, the Examiner believed the claims to be allowable based on the fact that *after* the cooling and shaping of the melt into a glass article step, but *before* subjecting the glass to an elevated temperature to generated/precipitate silver and copper halide crystals, the cooled/shaped glass article is subjected to an ion-exchanging procedure to exchange metal into the surface of the glass article. However, the claims, as currently recited, do not require the ion-exchange step to occur after the cooling/shaping of the

melt into a glass article, and before subjecting the glass article to an elevated temperature. Therefore, the Examiner now believes, as currently recited, the claims fail to be patentably distinguishable over the prior art. The indicated allowability of claims 1-6 is withdrawn in view of the references cited in the rejections which follow.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US. Pat. No. 6,313,947) in view of Applicant's Admitted Art.

Takahashi et al discloses nearly all that is recited in the claims, in that it discloses an initial glass batch, containing copper halides, which is melted and cooled to produce a glass article, after which it is reheated to develop copper halide crystals, after which it is stretched to elongate the copper halide particles into a prolate shape, after which the elongated glass is subjected to a reduction treatment to reduce a portion of all of the copper halide particles contained in the glass (see col. 4, line 53-col. 5, line 67). The claims differ from Takahashi et al in that Takahashi et al does not specifically disclose an ion-exchanging step. However, as admitted by Applicant in the instant disclosure on page 8, ion-exchange has been used in the past to strengthen glass articles, particularly by replacing sodium ions with copper ions. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have incorporated an

ion-exchange step, at some point in the process of Takahashi et al, in order to greatly enhance the mechanical strength of the glass article produced in Takahashi et al.

Regarding claim 2, Takahashi indicates that almost all of the copper halide particles are reduced to metallic copper, which means that there would be almost no copper halide crystals left to settle in the central layer – which would satisfy the claim limitations.

Regarding claim 3, the examples, in Takahashi et al) state several instances of the surface layer being less than 50 microns (See examples 1-11).

Regarding claim 4, while there appears to be no articulation of a surface layer being less than 10 microns, it follows that, after routine experimentation, one having ordinary skill in the art would have arrived at this thickness while optimizing the operating parameters of the reducing step.

Regarding claims 5-6, it follows that the copper metal in the surface layer is greater than the claimed percentages since almost all of the copper halide crystals are reduced.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne A. Walls whose telephone number is (571) 272-1195. The examiner can normally be reached on Mon-Fri, 7AM - 4:30PM (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (571) 272-1189. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dionne A. Walls
Primary Examiner
Art Unit 1731

April 10, 2005